

## Lessard, Edward T

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**From:** Travis, Richard J  
**Sent:** Monday, February 28, 2005 2:22 PM  
**To:** Lessard, Edward T; Wu, Kuo-Chen; Ganetis, George; Durnan, James T; Sandorfi, Andrew; Muller, Thomas R  
**Cc:** Alforque, Rodolfo; Glenn, Joseph W; Kane, Steven F; Kroon, Peter J; Mortazavi, Payman; Rehak, Margareta L; Sidi-Yekhlef, Ahmed; Gill, Ronald L; Petricek, Robert J; Travis, Richard J  
**Subject:** LESHG 05-05, LEGS Beth Magnet Modifications

All,

Immediately after the Pretest Inspection of the AGS Snake Magnet (LESHG 05-04, 2/22/05), an ad hoc meeting was held to discuss the proposed modifications to the LEGS Beth Magnet.

The attendees were: George Ganetis, and Jim Durnan for the Magnet Division; Ed Lessard, K.C. Wu and Rich Travis for the LESHG Cryogenic Safety Subcommittee.

George Ganetis discussed the proposed modifications to reduce the LHe consumption of the magnet. The Magnet Division was originally going to weld a vacuum jacket on the lead tower (see the attached email). However, this plan has been shelved in favor of a simpler, quicker fix. The proposed modification will extend the lead tower approximately six inches and enclose it in rigid foam. The leads will be extended and gas cooling provided. Ceramic insulators will be used to address any icing concern. The goal is to bring this area down to ~ 100 degrees K. The relief valves will also be relocated and the discharge will be reoriented upward away from personnel who may be near the magnet. The magnet will continue to be electrically grounded/bonded during this phase of the work.

**ACTION: The Magnet Division (George Ganetis) agreed to provide drawings of the proposed modifications to the LESHG Secretary for the Committee's information.**

Helium transfer line improvements will also be made to further reduce LHe usage.

The Magnet Division will evaluate the modifications and use this re-commissioning experience to write an operating procedure for this magnet.

Upon completion of the above action, the LESHG Chairperson agreed that modifications and subsequent evaluation of the the LEGS Beth Magnet (in Building 902) could commence.

A formal Cryogenic Safety Subcommittee Review will be required after the magnet is relocated from Building 902, but prior to operation in an experimental setting.

**ACTION: The Physics Department (Andy Sandorfi/Tom Muller) is requested to contact the LESHG Secretary to arrange for this review. In order to avoid an impact on the experimental schedule please allow a two to three week lead time for scheduling purposes. Kindly note that additional time may be required for the completion of Committee actions prior to experimental operations.**

Please feel free to call Ed Lessard (X4250) or me (X5827) with any questions that you might have.

Rich Travis  
LESHG Secretary



LEGS BETH Magnet  
Status

## Lessard, Edward T

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**From:** Travis, Richard J  
**Sent:** Tuesday, January 25, 2005 4:18 PM  
**To:** Lessard, Edward T  
**Cc:** Alforque, Rodolfo; Glenn, Joseph W; Kane, Steven F; Kroon, Peter J; Mortazavi, Payman; Rehak, Margareta L; Sidi-Yekhlef, Ahmed; Travis, Richard J; Wu, Kuo-Chen; Sandorfi, Andrew; Muller, Thomas R; Durnan, James T; Gill, Ronald L; Travis, Richard J  
**Subject:** LEGS BETH Magnet Status

Ed,

The Magnet Division has finished trouble shooting the LEGS BETH Magnet. They have identified the lead tower as the major cause of the excessive use of LHe. (Its very short, only partially vacuum jacketed and they have teflon lead seals which tend to leak when cold.) They proposed an additional vacuum tank over the lead tower which would overlap the existing partial vacuum space. The new tank would have disconnecting leads to limit conduction. The disconnecting leads concept has been used in the AGS cold snake.

There is another meeting tentatively scheduled for 2/11. At that time, the Magnet Division will discuss cost, define the schedule (roughly 3 months for the fix) and flesh out the concept a bit more.

There is, of course, a schedule concern. [Tom Muller](#) agreed to formally contact the LESHG when the design starts to firm up. The intent is to provide Committee input early on to minimize schedule impact.

Rich